

Attorney's Docket Number:
5254.200-US

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Polypeptides Having Dipeptidyl Aminopeptidase Activity And Nucleic Acids Encoding Same

the specification of which (check only one item below):

[] is attached hereto.

[X] was filed as United States application

Serial No. 09/079,592

on May 15, 1998

and was amended

on

[] was filed as PCT international application

Number

on

and was amended under PCT Article 19

on

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign applications(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed.

PRIOR FOREIGN/PCT APPLICATION(S) AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. 119:

[illegible]

COMBINED DECLARATION FOR PCT APPLICATION AND POWER OF ATTORNEY
(Includes Reference to PCT International Applications)

Attorney's Docket Number:

5254,200-US

I hereby claim the benefit under Title 35, United States Code §120 of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this applications is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application:

PRIOR U.S. APPLICATIONS OR PCT INTERNATIONAL APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 U.S.C. 120:

U.S. APPLICATIONS		STATUS (Check one)		
U.S. APPLICATION NUMBER	U.S. FILING DATE	Patented	Pending	Abandoned
08/857,884	May 16, 1997		X	
PCT APPLICATIONS DESIGNATING THE U.S.				
APPLICATION NO.	FILING DATE	US SERIAL NUMBERS ASSIGNED (if any)		

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

Steve T. Zelson Reg. No. 30,335 Elias J. Lambiris Reg. No. 33,728 Cheryl H. Agris Reg. No. 34,086 Carol E. Rozek Reg. No. 36,993 Valeta A. Gregg Reg. No. 35,127 Robert L. Starnes Reg. No. 41,324

Send Correspondence to: Steve T. Zelson, Esq.
Novo Nordisk of North America, Inc.
405 Lexington Avenue, Suite 6400
New York, New York 10174-6400

Direct Telephone Calls To:

Steve T. Zelson
(212) 867-0123

1	Full Name of Inventor	Family Name Blinkovsky	First Given Name Alexander	Second Given Name
	Residence & Citizenship	City Davis	State or Foreign Country California	Country of Citizenship Russia
	Post Office Address	Post Office Address 955 Cranbrook Court #306	City Davis	State & Zip Code/Country California 95616
2	Full Name of Inventor	Family Name Brown	First Given Name Kimberly	Second Given Name
	Residence & Citizenship	City Elk Grove	State or Foreign Country California	Country of Citizenship U.S.A.
	Post Office Address	Post Office Address 8322 Windswept Court	City Elk Grove	State & Zip Code/Country California 95758
3	Full Name of Inventor	Family Name Rey	First Given Name Michael	Second Given Name W.
	Residence & Citizenship	City Davis	State or Foreign Country California	Country of Citizenship U.S.A.
	Post Office Address	Post Office Address 605 Robin Place	City Davis	State & Zip Code/Country California 95616
4	Full Name of Inventor	Family Name Klotz	First Given Name Alan	Second Given Name
	Residence & Citizenship	City Dixon	State or Foreign Country California	Country of Citizenship U.S.A.
	Post Office Address	Post Office Address 725 Collier Drive	City Dixon	State & Zip Code/Country California 95620

COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY
(Includes Reference to PCT International Applications)

Attorney's Docket Number:

5254.200-US

5	Full Name of Inventor	Family Name Byun	First Given Name Tony	Second Given Name
	Residence & Citizenship	City Davis	State or Foreign Country California	Country of Citizenship U.S.A.
	Post Office Address	Post Office Address 841 Adams Terrace Apt. A	City Davis	State & Zip Code/Country California 95616 U.S.A.
6	Full Name of Inventor	Family Name	First Given Name	Second Given Name
	Residence & Citizenship	City	State or Foreign Country	Country of Citizenship
	Post Office Address	Post Office Address	City	State & Zip Code/Country
7	Full Name of Inventor	Family Name	First Given Name	Second Given Name
	Residence & Citizenship	City	State or Foreign Country	Country of Citizenship
	Post Office Address	Post Office Address	City	State & Zip Code/Country
8	Full Name of Inventor	Family Name	First Given Name	Second Given Name
	Residence & Citizenship	City	State or Foreign Country	Country of Citizenship
	Post Office Address	Post Office Address	City	State & Zip Code/Country
9	Full Name of Inventor	Family Name	First Given Name	Second Given Name
	Residence & Citizenship	City	State or Foreign Country	Country of Citizenship
	Post Office Address	Post Office Address	City	State & Zip Code/Country

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signature of Inventor 1 <i>Alexander Brinkovsky</i>	Signature of Inventor 2 <i>Kimberly Brown</i>	Signature of Inventor 3 <i>[Signature]</i>
Date 5/22/98	Date 5/26/98	Date 5/27/98
Signature of Inventor 4 <i>Alan V. Klotz</i>	Signature of Inventor 5 <i>[Signature]</i>	Signature of Inventor 6
Date 5/22/98	Date 5/22/98	Date
Signature of Inventor 7	Signature of Inventor 8	Signature of Inventor 9
Date	Date 5	Date

(2) Identify each inventor by full name, including the family name, and at least one given name without abbreviation together with any other given name or initial;

(3) Identify the country of citizenship of each inventor; and

(4) State that the person making the oath or declaration believes the named inventor or inventors to be the original and first inventor or inventors of the subject matter which is claimed and for which a patent is sought.

(b) In addition to meeting the requirements of paragraph (a) of this section, the oath or declaration must also:

(1) Identify the application to which it is directed;

(2) State that the person making the oath or declaration has reviewed and understands the contents of the application, including the claims, as amended by any amendment specifically referred to in the oath or declaration; and

(3) State that the person making the oath or declaration acknowledges the duty to disclose to the Office all information known to the person to be material to patentability as defined in § 1.56.

(c) Unless such information is supplied on an application data sheet in accordance with § 1.76, the oath or declaration must also identify:

(1) The mailing address, and the residence if an inventor lives at a location which is different from where the inventor customarily receives mail, of each inventor; and

(2) Any foreign application for patent (or inventor's certificate) for which a claim for priority is made pursuant to § 1.55, and any foreign application having a filing date before that of the application on which priority is claimed, by specifying the application number, country, day, month, and year of its filing.

(d)(1) A newly executed oath or declaration is not required under § 1.51(b)(2) and § 1.53(f) in a continuation or divisional application, provided that:

(i) The prior nonprovisional application contained an oath or declaration as prescribed by paragraphs (a) through (c) of this section;

(ii) The continuation or divisional application was filed by all or by fewer than all of the inventors named in the prior application;

(iii) The specification and drawings filed in the continuation or divisional application contain no matter that would have been new matter in the prior application; and

(iv) A copy of the executed oath or declaration filed in the prior application, showing the signature or an indication thereon that it was signed, is submitted for the continuation or divisional application.

(2) The copy of the executed oath or declaration submitted under this paragraph for a continuation or divisional application must be accompanied by a statement requesting the deletion of the name or names of the person or persons who are not inventors in the continuation or divisional application.

(3) Where the executed oath or declaration of which a copy is submitted for a continuation or divisional application was originally filed in a prior application accorded status under § 1.47, the copy of the executed oath or declaration for such prior application must be accompanied by:

(i) A copy of the decision granting a petition to accord § 1.47 status to the prior application, unless all inventors or legal representatives have filed an oath or declaration to join in an application accorded status under § 1.47 of which the continuation or divisional application claims a benefit under 35 U.S.C. 120, 121, or 365(c); and

(ii) If one or more inventor(s) or legal representative(s) who refused to join in the prior application or could not be found or reached has subsequently joined in the prior application or another application of which the continuation or divisional application claims a benefit under 35 U.S.C. 120, 121, or 365(c), a copy of the subsequently executed oath(s) or declaration(s) filed by the inventor or legal representative to join in the application.

(4) Where the power of attorney (or authorization of agent) or correspondence address was changed during the prosecution of the prior application, the change in power of attorney (or authorization of agent) or correspondence address must be identified in the continuation or divisional application. Otherwise, the Office may not recognize in the continuation or divisional application the change of power of attorney (or authorization of agent) or correspondence address during the prosecution of the prior application.



US006664092B1

(12) **United States Patent**
Blinkovsky et al.

(10) **Patent No.: US 6,664,092 B1**
(45) **Date of Patent: Dec. 16, 2003**

(54) **POLYPEPTIDES HAVING DIPEPTIDYL AMINOPEPTIDASE ACTIVITY AND NUCLEIC ACIDS ENCODING SAME**

(75) **Inventors:** Alexander Blinkovsky, Davis, CA (US); Kimberly Brown, Elk Grove, CA (US); Michael W. Rey, Davis, CA (US); Alan Klotz, Dixon, CA (US); Tony Byun, Davis, CA (US)

(73) **Assignee:** Novozymes Biotech, Inc., Davis, CA (US)

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 337 days.

(21) **Appl. No.:** 09/079,592

(22) **Filed:** May 15, 1998

Related U.S. Application Data

(63) Continuation-in-part of application No. 08/857,884, filed on May 16, 1997, now abandoned.

(60) Provisional application No. 60/062,892, filed on Oct. 20, 1997.

(51) **Int. Cl.⁷** C12N 9/48; C07H 21/04

(52) **U.S. Cl.** 435/212; 435/252.33; 435/254.3; 435/320.1; 536/23.2; 536/23.1; 536/23.74; 426/533; 426/549

(58) **Field of Search** 435/212, 6, 252.33, 435/254.3, 320.1; 536/23.2, 23.1, 23.74; 426/533, 549

(56) References Cited

FOREIGN PATENT DOCUMENTS

WO	WO 94/25580	* 11/1994
WO	WO 96/28542	9/1996
WO	WO 97/43910	11/1997

OTHER PUBLICATIONS

Tachi et al., "An X-Prolyl Dipeptidyl-Aminopeptidase From *Aspergillus oryzae*", *Phytochemistry* vol. 31, No. 11, pp. 3707-3709, 1992.

Beauvais et al., "Biochemical and Antigenic Characterization of a New Dipeptidyl-Peptidase Isolated From *Aspergillus fumigatus*" *Journal of Biological Chemistry* 272 (10), 1997, pp 6238-6244.

Heymann et al., "Complementary Action of Dipeptidyl Peptidase IV and Aminopeptidase M In The Digestion of β -Casein", *J. Dairy Res* 53, 1986, pp. 229-236.

Chemical Abstracts, vol. 124, No. 21, May 20, 1996 (XP-002051874).

Database WPI, Section Ch, Week 9527, May 9, 1995 (XP-002047737).

Database WPI, Section Ch, Week 9710, (XP-002076623) Nov. 17, 1993.

Beauvais et al., "Dipeptidyl-Peptidase IV Secreted by *Aspergillus fumigatus*, A Fungus Pathogenic to Humans" *Infection and Immunity*, vol. 65, No. 8, Aug. 1997, pp. 3042-3047.

EMBL/Genbank Databases, Accession No. AJ002369, Sequence Reference No. A0DPPIV, Mar. 2, 1998 (XP-002076626).

* cited by examiner

Primary Examiner—Nashaat T. Nashed

(74) *Attorney, Agent, or Firm*—Robert L. Starnes

(57) ABSTRACT

The present invention relates to isolated polypeptides having dipeptidyl aminopeptidase activity and isolated nucleic acid sequences encoding the polypeptides. The invention also relates to nucleic acid constructs, vectors, and host cells comprising the nucleic acid sequences as well as methods for producing and using the polypeptides.

26 Claims, 4 Drawing Sheets